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August 10, 1999

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

VIA HAND DELIVERY

Magalie R. Salas, Secretary

Federal Communications Commission

445 12th Street, S.W.

Washington, D.C. 20554

**Re: Notice of *Ex Parte* Presentation by e.spire Communications, Inc. and
Intermedia Communications Inc.**

***Implementation of the Local Competition Provisions in the
Telecommunications Act of 1996 -- CC Docket No. 96-98*** ✓

Dear Ms. Salas:

Pursuant to Sections 1.1206(b)(1) and (2) of the Commission's Rules, e.spire Communications, Inc. ("e.spire") and Intermedia Communications Inc. ("Intermedia"), by their attorneys, submit this notice in the above-captioned docketed proceeding of an oral *ex parte* presentation made and written *ex parte* materials distributed on August 9, 1999 during a meeting with Larry Strickling, Robert Atkinson, Jordan Goldstein, Jake Jennings, Dale Hatfield and Stagg Newman of the Common Carrier Bureau. The presentation was made by Charles Kallenbach, Vice President, Legal and Regulatory of e.spire; Heather Gold, Vice President, Regulatory and External Affairs of Intermedia; Julia Strow, Assistant Vice President, Industry Policy of Intermedia; Jonathan Askin, Vice President, Law of the Association for Local Telecommunications Services; and Jonathan Canis and John Heitmann of Kelley Drye & Warren LLP. Copies of the written materials distributed at the meeting are attached hereto.

During the presentation, e.spire and Intermedia discussed concepts presented in and raised by the attached position paper entitled "Frame Relay and Data UNEs," which initially was

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Magalie R. Salas
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presented, in response to Common Carrier Bureau staff requests, on July 21, 1999. e.spire and Intermedia also discussed the extended link and the need for functional UNEs which are able to transcend varying technologies used to deliver telecommunications traffic. In relation to the discussion on the extended link, meeting attendees discussed a June 1999 Florida Public Service Commission arbitration decision which is attached hereto.

Pursuant to Sections 1.1206(b)(1) and (2), an original and two copies of this *ex parte* notification (with attachments) are provided for inclusion in the public record of the above-referenced proceeding. We would be pleased to provide additional copies of the paper and its appendix, upon request. Please direct any questions regarding this matter to the undersigned.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "John J. Heitmann", written in a cursive style.

John J. Heitmann

cc: Larry Strickling (w/out Position Paper and Appendix)
Robert Atkinson (w/out Position Paper and Appendix)
Jake Jennings (w/out Position Paper and Appendix)
Jordan Goldstein (w/out Position Paper and Appendix)
Claudia Fox (w/out Position Paper and Appendix)
Dale Hatfield (w/out Position Paper and Appendix)
Stagg Newman. (w/out Position Paper and Appendix)

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BEFORE THE FLORIDA PUBLIC SERVICE

COMMISSION

In re: Request for arbitration DOCKET NO. 981121-TP
concerning complaint of MCImetro ORDER NO. PSC-99-1089-FOF
Access Transmission Services LLC ISSUED: May 27, 1999
for enforcement of
interconnection agreement with
BellSouth Telecommunications,
Inc.

The following Commissioners participated in the disposition of this matter:

JOE GARCIA, Chairman J. TERRY DEASON SUSAN F. CLARK JULIA L.
JOHNSON E. LEON JACOBS, JR.

APPEARANCES:

RICHARD MELSON, ESQUIRE, Hopping Green Sams & Smith, P.A., P.O. Box
6526, Tallahassee, Florida 32314. On behalf of MCImetro Access Transmission
Services LLC.

J. PHILLIP CARVER, ESQUIRE, 675 West Peachtree Street, #4300, Atlanta,
Georgia 30375. On behalf of BellSouth Telecommunications, Inc.

MARTHA CARTER BROWN, ESQUIRE AND JOHN MILLER, ESQUIRE, Florida
Public Service Commission, 2540 Shumard Oak Boulevard, Tallahassee, Florida
32399-0850. On behalf of the Commission Staff.

• ORDER RESOLVING COMPLAINT

BY THE COMMISSION:

BACKGROUND

On September 14, 1998, MCImetro Access Transmission Services LLC (MCIIm) filed a complaint for enforcement of its Interconnection Agreement with BellSouth Telecommunications, Inc. (BellSouth). BellSouth filed its Answer and Response to MCI's Petition on October 5, 1998. We conducted an evidentiary hearing on the complaint on February 3, 1999. The issues we addressed at the hearing concern the appropriate provisioning and pricing of a 4-wire DS1 loop and DS1 dedicated transport network element combination under the agreement. Our decision on those issues is explained in detail below.

DECISION

MCIIm complains that BellSouth has refused to provide the combination of a DS1 loop and a DS1 Transport at the sum of the individual unbundled network element (UNE) prices, as their interconnection agreement requires. MCIIm asserts that it has been forced to purchase higher priced T-1 circuits from BellSouth's access tariffs to provide high-speed, full-service telecommunications to its business customers. MCIIm asks that we order BellSouth to provide the network element combination to MCIIm at the simple sum of UNE prices and require BellSouth to reimburse MCIIm for the difference between the DS-1 combination price and the T-1 price MCIIm has been paying.

BellSouth responds that the DS1 loop and transport combination MCIIm demands recreates a BellSouth retail service called "MegaLink". According to BellSouth, the parties' interconnection agreement and this Commission's policies regarding combinations of unbundled network elements (UNEs) do not require it to provide this combination at the sum of the UNE prices. BellSouth relies on our Order No. PSC-98-0810-FOF-TP, issued June 12, 1998, in Docket No. 971140-TP, which addressed a number of issues concerning the treatment of UNE combinations in AT&T Communications of the Southern States, Inc.'s (AT&T) and MCIIm's interconnection agreements with BellSouth. In Order No. PSC-98-0810-FOF-TP, page 25, we said:

MCIIm and BellSouth shall negotiate the price for those network element combinations that recreate an existing BellSouth retail service, whether or not in existence at the time of M C I m ' s order.

ORDER NO. PSC-99-1089-FOF-TP DOCKET NO. 981121-TP PAGE 3 Because the parties did not agree that the combination MCIIm requested recreated BellSouth's MegaLink service, they never negotiated a price. BellSouth contends that the parties are required to negotiate the price for the combination, and BellSouth asserts that the

price should be set at the wholesale price of MegaLink service.

Thus, to resolve this dispute we must answer this question: Does the combination of unbundled network elements consisting of 4-wire DS1 loops and DS1 dedicated transport recreate an existing BellSouth retail service known as MegaLink? If it does not, then the parties' interconnection agreement, and our Order No.

PSC-98-0810-FOF-TP interpreting the relevant portions of the agreement, clearly indicate that BellSouth must provide the combination to MCI at the sum of the UNE prices. If it does, then we must direct the parties to negotiate a price.

The DS1 combination and MegaLink

MCI witness Martinez described a DS1 loop as a four-wire facility and associated electronics that connect a customer's premises to the customer's serving wire center. A DS1 loop provides 1.5 million bits per second (MBPS) of bandwidth, which is equivalent to 24 voice grade channels. Witness Martinez described DS1 dedicated transport as a four-wire interoffice facility and associated electronics that provide a 1.5 MBPS connection between the customer's serving wire center and a point of interconnection at MCI's local switch location. Witness Martinez testified that MCI intends to use the DS1 loop/ DS1 transport combination to connect a business customer's premises to a MCI Class 5 local switch, which MCI uses to provide local service to the customer, including dial-tone, local calling, vertical features, access to operator services, access to 911 service, and switched access to the customer's preferred long distance carrier.

BellSouth witness Milner described MegaLink as a service by which digital signals are transmitted over digital facilities at a rate of 1.544 MBPS to and from a customer's premises. He explained that BellSouth offers MegaLink through its Private Line Services Tariff, but functionally MegaLink is the same as a DS1 loop and dedicated transport combination. He argued that the functional equivalence of the element combination is what determines the recreation of a retail service, and the proposed combination of UNEs and MegaLink service provide identical ORDER NO. PSC-99-1089-FOF-TP DOCKET NO. 981121-TP PAGE 4 functionality regardless of whether MCI connects either to MCI's switch.

MCI's witnesses Martinez and Gillan acknowledged that the DS1 loop/DS1 dedicated transport combination is functionally the same as MegaLink, but also pointed out that there are four possible ways to obtain this functionality: (1) by purchasing a DS1 loop UNE and DS1 transport UNE out of the Interconnection Agreement, and MCI combining these themselves in a collocation space; (2) by purchasing BellSouth's MegaLink service; (3) by purchasing T-1 circuits from BellSouth's access tariff; and (4) by purchasing the combination of a DS1 loop and DS1 dedicated transport. With the exception of the pricing on option (4), BellSouth witness Hendrix agreed that BellSouth has the capability of providing this functionality in four different ways.

Witness Martinez disagreed, however, that a MegaLink circuit provided to an end use customer by BellSouth and a DS1 loop/DS1 dedicated transport combination used by

MCIm as part of an MCIm switch-based local service offering are in any way equivalent in the eyes of the customer. According to MCIm, one must compare the service to be offered using the UNE combination to the BellSouth retail service in order to determine if the former "recreates" the latter. In MCIm's view, the combination in question here does not recreate any existing BellSouth retail service within the meaning of Order No. PSC-98-0810-FOF-TP.

We cannot accept the position that identical functionality alone determines whether a competing carrier's use of an unbundled network element combination "recreates" an incumbent carrier's retail service. If that were so, almost any element combination could be said to "recreate" some retail service. Such a standard would severely restrict competitive carriers' use of UNEs to enter local telephone markets, contrary to the intent of the Telecommunications Act of 1996 and the FCC's rules implementing that Act.¹ We believe we must evaluate a claim¹ Witness Gillan argued that if the Commission adopts BellSouth's view, then BellSouth, in its own discretion, has the ability to avoid its unbundling and network element combining obligations simply by always having services that equal the network elements. While we do not believe that BellSouth will attempt to avoid its obligations in this fashion, we do agree that as the number of BellSouth's service offerings increases, ORDER NO.

PSC-99-1089-FOF-TP DOCKET NO. 981121-TP PAGE 5 that a UNE combination recreates a retail service much more comprehensively. Section 364.02(11), Florida Statutes, states that "[s]ervice is to be construed in its broadest and most inclusive sense," and we need to consider other aspects of the services in question beyond just the functionality of the facilities involved. We need to consider both the nature of the incumbent's tariffed retail service as well as the competitor's intended use of the requested UNE combination to determine whether the one recreates the other.

In this case, one of the major differences between MCIm's intended use of the DS1 combination and BellSouth's MegaLink service is that MCIm will use it with its own Class 5 local switch to provide a full range of local telecommunications to its customers. Witness Gillan testified that BellSouth has continuously objected to a particular network configuration, the so-called network element "platform," where the entrant provides its service entirely using network elements obtained from BellSouth. Witness Gillan pointed to the direct testimony of BellSouth witness Robert Scheye in the AT&T/MCIm Arbitration proceeding, which stated:

ALECs should be able to combine BellSouth provided elements with their own capabilities to create a unique service. However, they should not be able to use only BellSouth's unbundled elements to create the same functionality as a BellSouth existing service.

Here, MCIm intends to use the BellSouth UNEs in concert with its own facilities, its Class 5 switch. As MCIm witness Gillan stated:

To determine whether MCIm "recreates" a BellSouth the potential for this type of conflict could increase. ORDER NO. PSC-99-1089-FOF-TP DOCKET NO. 981121-TP PAGE 6 service requires a comparison that considers the service MCIm offers. The service offered by MCIm uses

network elements in exactly the way BellSouth has (until now) argued that it should -- in combination with MCI's own facilities-- and BellSouth's instant claim that even this arrangement "recreates" a BellSouth service should be rejected.

The inconsistency of BellSouth's position is not the important thing here. It is the fact that MCI will connect BellSouth's DS1 loop and DS1 dedicated transport to its own facilities to provide telecommunications service. It cannot be said from the evidence in the record that MCI will provide telecommunications service to its customers entirely from a combination of BellSouth's network elements that recreate a retail service.

The evidence in the record also indicates that the total service BellSouth offers through its MegaLink tariff is not consistent with MCI's intended use of the UNE combination. BellSouth offers MegaLink service only to private line customers. Although BellSouth's witness Milner stated that the tariff clearly contemplates that the transport functionality may be used in conjunction with switches, the evidence does not support this assertion. Witness Milner admitted that the terms "local switch" or "toll switch" do not appear in any provisions of the MegaLink tariff, but he argued that Section B7.1.2.D of the tariff, regarding the connections that may be made to the MegaLink service, uses the term "Customer-Provided Communications Systems" which he believes includes switches. The tariff defines "Communications Systems," however, as follows:

The term "Communications Systems" when used in connection with communications systems ORDER NO. PSC-99-1089-FOF-TP DOCKET NO. 981121-TP PAGE 7 provided by an Other Carrier (OC) denotes channels and other facilities furnished by the OC for private line services as such OC is authorized by Federal Communications Commission or Public Service Commission to provide.

Witness Milner agrees that MCI would be considered an Other Carrier. Thus the tariff would require an "Other Carrier" such as MCI to connect MegaLink to facilities used to provide private line services. As MCI argues in its brief, it "is offering a switched-based local exchange service that can be used to call any telephone in the world. It is the antithesis of a private line service."

BellSouth witness Milner also testified that MegaLink can be used to connect an end user customer to a BellSouth central office, or to another end user customer, or to connect two of BellSouth's central offices. Again, the evidence does not support this statement. As MCI pointed out at the hearing, Section B2.1.1 of BellSouth's Private Line Services Tariff states:

Private line service is the provision of Company facilities for communication between specified locations of customers or authorized users.

The tariff further defines "authorized users" as:

a person, firm or corporation (other than the customer) who may communicate over a private line or channel according to the terms of the tariff and (1) on whose premises a station ORDER NO. PSC-99-1089-FOF-TP DOCKET NO. 981121-TP PAGE 8 of the private line service is located or (2) who receives from or sends to the customer such private line or channel communications relating solely to the business of the customer. An authorized user must be specified in the service contract.

The evidence shows that BellSouth's private line MegaLink service is intended to connect locations of the same customer, or a customer and an affiliated authorized user. MCIIm intends to connect unrelated business customers to the public switched network to provide local service not to provide private line service. Therefore, the language in BellSouth's Private Line Services tariff would prohibit MCIIm from providing the service it intends to provide.

Conclusion

Based on the evidence in the record, we find that the combination of UNEs consisting of a 4-wire DS1 loop and DS1 dedicated transport does not recreate BellSouth's MegaLink service. MCIIm's intended use of the elements is inconsistent with the conditions of the MegaLink service tariff. Since Section 251(c)(3) of the Telecommunications Act of 1996, states that "[a]n incumbent local exchange carrier shall provide such unbundled network elements in a manner that allows requesting carriers to combine such elements in order to provide such telecommunications service," and since BellSouth is required to provide UNE combinations under the terms of the parties' agreement, we direct BellSouth to provide this combination at the sum of the individual network elements.

Refund

MCIIm requests that we order BellSouth to refund the difference between the access tariff prices for the T-1 circuits that MCIIm has been ordering and the price for the UNE combination of a DS1 loop and DS1 transport. MCIIm witness Martinez stated that as of the date direct testimony was filed, the accumulated ORDER NO. PSC-99-1089-FOF-TP DOCKET NO. 981121-TP PAGE 9 difference in price was over \$3 million, and was continuing to increase at a rate of over \$300,000 per month.

BellSouth argues in its brief that:

Clearly, this case is not a situation in which a refund is appropriate under the normal criteria (i.e., because the customer did not receive service, was not charged for service at the tariffed rate, or had some legitimate complaint regarding the quality of service).

BellSouth witness Hendrix also argued that MCIIm ordered T-1 circuits from the access tariff and has used them accordingly. He stated that MCIIm's argument that it ordered these circuits via the access tariff because it could not purchase UNEs is not true. He contended that MCIIm could have purchased UNEs and combined them in

their collocation space, or they could have purchased MegaLink service at the tariffed rate less the applicable resale discount. While this may be correct, it is irrelevant. The parties' interconnection agreement entitles MCIm to order the UNE combination from BellSouth at the price defined in the contract. BellSouth is contractually required to provide it, regardless of other options available to MCIm.

BellSouth is also contractually required to provide a refund where it has failed to comply with the terms of its agreement. BellSouth acknowledged that MCIm attempted to order the DS1 loop/DS1 dedicated transport combination in late 1997. Since BellSouth did not provide it, it now must provide the refund pursuant to the interconnection agreement.

Based on the foregoing, it is

ORDERED by the Florida Public Service Commission that BellSouth Telecommunications, Inc. shall provide the DS1 loop and DS1 dedicated transport combination to MCImetro Access Transmission Services LLC, pursuant to the terms of its ORDER NO. PSC-99-1089-FOF-TP DOCKET NO. 981121-TP PAGE 10 interconnection agreement at the sum of the unbundled network element prices. It is further

ORDERED that BellSouth Telecommunications, Inc. shall provide a refund to MCImetro Access Transmission Services LLC of the difference between the price of the combination and the access tariff price of a T1 circuit that MCImetro Access Transmission Services LLC has purchased since November of 1997. It is further

ORDERED that this docket shall be closed.

By ORDER of the Florida Public Service Commission this 27th day of May, 1999.

BLANCA S. BAYÓ, Director
Division of Records and Reporting

By: /s/ Kay Flynn
Kay Flynn, Chief
Bureau of Records

This is a facsimile copy. A signed copy of the order may be obtained by calling 1-850-413-6770.

(S E A L)

MCB

NOTICE OF FURTHER PROCEEDINGS OR JUDICIAL REVIEW

The Florida Public Service Commission is required by Section 120.569(1), Florida Statutes, to notify parties of any administrative hearing or judicial review of Commission orders that is available under Sections 120.57 or 120.68, Florida Statutes, as well as the procedures and time limits that apply. This notice should not

be ORDER NO. PSC-99-1089-FOF-TP DOCKET NO. 981121-TP PAGE 11 construed to mean all requests for an administrative hearing or judicial review will be granted or result in the relief sought.

Any party adversely affected by the Commission's final action in this matter may request: 1) reconsideration of the decision by filing a motion for reconsideration with the Director, Division of Records and Reporting, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, within fifteen (15) days of the issuance of this order in the form prescribed by Rule 25-22.060, *Florida Administrative Code*; or 2) judicial review in Federal district court pursuant to the Federal Telecommunications Act of 1996, 47 U.S.C. § 252(e)(6).

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e.spire / Intermedia

Frame Relay and Data UNEs

Position Paper

- Technical overview of frame relay technology and service.
 - Physical components of frame relay service.
 - How a frame relay transmission gets from point A to B – and how fast.
 - Frame relay in terms of the OSI protocol stack.
- Why current arrangements with ILECs are stalling competition and limiting consumer choice in data service providers.
- Specific unbundling proposals: a PVC UNE or specific frame relay UNEs in combination (corresponding to tariffed elements of ILEC frame relay service).
- Frame relay / data UNEs satisfy the “impair” standard.

Diagrams

- A** Frame relay frame
- B** Getting to the first frame relay switch
- C** Frame relay – physical components
- D** PVCs and ILEC tariffed elements
- E** Frame relay on the OSI protocol stack
- F** Connecting frame relay networks to expand the reach of ILEC and CLEC networks
- G** Frame relay interconnection
- H** How to get a frame relay customer onto a CLEC’s frame relay network
- I** Different delivery options lead to different pricing scenarios

Appendix

- e.spire frame relay interconnection and UNE arbitration decisions from Arizona, Colorado and New Mexico.
- Frame relay service excerpts from RBOC/GTE FCC access tariffs.

The FCC must extend its implementation of the local competition provisions of the 1996 Act into the packet-switched world.

- The FCC has determined that the Act is technology neutral.
- ILECs are not “new entrants” into packet-switched data transmission markets.
 - ILECs deployed frame relay and other data technologies before the 1996 Act.
 - ILECs have continued to deploy new technologies, even though faced with potential unbundling obligations.
 - By generating additional demand and providing a reasonable profit, unbundling actually encourages ILEC deployment of advanced technologies.
- The ILECs’ ubiquitous loop and transport network, enormous embedded customer base, and resulting economies of scale give them distinct and decisive advantages that extend beyond the circuit-switched world.

Frame relay is a packet-based technology that provides a very efficient and reliable means of transporting high-speed, high volume, bursty data between geographically dispersed LANs.

- Frames are like programmable and extendable data boxcars – neither segmentation into standard-sized packets nor protocol conversions are required.
- Physical components of frame relay service include:
 - Customer premise equipment (at both ends of a transmission) known as a Frame Relay Access Device or Frame Relay Assembler/Disassembler (**FRAD**).
 - A loop, extended link or special access circuit known as a Frame Relay Access Link (**FRAL**).
 - Multiplexing equipment known as a Digital Access and Cross-Connect System (**DACS**) used to aggregate DS-0 traffic onto a common T-1 (or DS-1 traffic onto a T-3) headed for a frame relay switch. (~\$65,000)
 - A frame relay switch, including User-to-Network Interface Ports (**UNI Port**) and Network-to-Network Interface Ports (**NNI Port**). (~\$250,000)
 - DS-3 and OCn transport links.
- Getting from point A to point B is accomplished by assigning Data Link Connection Identifiers (**DLCI**) to each “hop” between two pieces of frame relay equipment (CPE and switches).
 - A string of DLCIs constitute a Permanent Virtual Circuit (**PVC**).
- How fast a transmission travels across the frame relay network is determined by network capacity and engineering. Frame relay service is sold at minimum guaranteed speeds or Committed Information Rates (**CIR**).

Frame relay providers realize cost-efficiencies through the network engineering practice of “oversubscription”.

- The shared nature and integrated switching/transport fabric of frame relay networks allows for the assignment of multiple DLCIs to the same transmission link.
- To achieve maximum use of frame relay switching capacity and transport links, DLCIs at varying CIRs generally are assigned to switch/transport links so that the aggregate CIR or capacity commitment is equal to 200% of the capacity of the switch port and transport link.
- Oversubscription factors may be adjusted if unacceptable peak-hour congestion is experienced.
- The practice of oversubscription yields a lower TELRIC for packetized transmission versus shared or dedicated circuit-switched transport over standard high capacity transport links.

e.spire and Intermedia seek access to frame relay and data UNEs in order to fill-out their own advanced frame relay and ATM networks.

- e.spire has deployed 66 data switches nationwide and Intermedia has deployed 175, giving it coverage in most LATAs.
- Frame relay UNEs are essential to CLECs' ability to compete for contracts to provide frame relay services to customers with geographically dispersed LANs.
- e.spire and Intermedia will use frame relay UNEs to provide connectivity between outlying customer LAN locations and their own frame relay switching/transport fabric.
- e.spire and Intermedia will combine frame relay UNEs with their own frame relay network elements to provide a finished service to an end user.
- Although the Arizona Corporation Commission has determined that U S West must make frame relay interconnection and UNEs available to e.spire at TELRIC, frame relay UNEs remain unavailable there and generally are not offered by ILECs anywhere.
- State commission confusion over intra and interLATA jurisdictional issues has left frame relay interconnection a muddled mess. e.spire and Intermedia use a mix of "NNI Agreements" and services ordered out of FCC access tariffs to achieve interconnection so that they can deliver intraLATA and interLATA frame relay traffic to customers on the ILECs' frame relay networks.
- e.spire and Intermedia provide both intraLATA and interLATA frame relay services – they do not seek interconnection or access to UNEs exclusively to provide exchange access.

The Commission should require ILECs to provide unbundled access at TELRIC-based prices to a PVC UNE or to frame relay UNEs based on the ILECs' tariffed elements for frame relay service.

- Specific frame relay unbundling requirements should include:
 - Frame Relay Access Links (FRALs) – 2- or 4-wire loops in 56 kbps increments or extended links (including DACS multiplexing).
 - Frame Relay Transmission Fabric (integrated switching and DS-3/OCn transport links).
 - Corresponding ILEC tariffed elements for the integrated frame relay switching/transport fabric include:
 - User-to-Network Interface Ports (UNI Ports);
 - Network-to-Network Interface Ports (NNI Ports); and
 - Data Link Connection Identifiers at Committed Information Rates (DLCIs at CIRs).
- Because frame relay UNEs must be offered in combination to be useful, e.spire and Intermedia propose a single PVC UNE encompassing each of the ILECs' tariffed frame relay elements (FRAL, UNI and NNI Ports, DLCI@CIR).
- A PVC UNE likely would transcend specific packet-based technologies and, thus, would be technology neutral and more broadly applicable than specific frame relay UNEs.
- The FCC should reaffirm that all UNEs, including frame relay and data UNEs, must be priced at TELRIC.
- The FCC should continue to prohibit ILEC- or state commission-imposed restrictions on the use of UNEs.

Cost and time-to-market factors indicate that frame relay UNEs satisfy the “impair” test of Section 251(d)(2). Without unbundled access to frame relay UNEs, e.spire and Intermedia’s ability to compete is diminished materially.

- **Network proximity to each of a customer’s geographically dispersed LAN locations often translates into a decisive cost-advantage for the ILECs.**
- The ILECs’ ubiquitous customer access, combined with ubiquitously deployed end office, loop and transport facilities, has enabled them to deploy more frame relay switches closer to frame relay customers.
- While ILECs often are able to take advantage of the cost-efficiencies of a packet-switched network deployed at all customer LAN locations, CLECs that have not extended their frame relay networks to a particular business center must depend on special access, traditional UNEs and collocation, or (if available) extended links to connect a LAN in that business center to its frame relay network and other LANs in another business center.
- If CLECs are to compete effectively, their costs for packetized transport products must reflect the efficiencies realized by oversubscription.
- Costs of connecting each LAN, including those on- and off-net, must be factored into competitive bids. If off-net costs are not based on TELRIC that reflects the practice of oversubscription, CLECs may not be able to compete effectively for frame relay customers with geographically dispersed LANs.
- Resale, even if available at an avoided cost discount, and special access priced in excess of TELRIC do not provide cost-effective alternatives to UNEs.

Impair test (continued) . . .

- **Packet-switched UNEs can provide cost effective alternatives in cases where:**
 - Geographic market characteristics cannot yet justify self-provisioning (~\$250,000 for the switch, plus the costs of end office space, installation and collocation (~\$50,000));
 - As is the case with traditional UNEs, frame relay/data UNEs can be used as stepping stones toward self-provisioning.
 - Special access incorporates an expensive distance-sensitive transport component;
 - Special access can be an alternative, if prices are set at a TELRIC that reflects the efficiencies of packetized transport.
 - Traditional UNEs require collocation (in addition to a distance-sensitive transport component priced at circuit-switched TELRIC, the expense (~\$50,000) and delay (several months to more than a year) of collocation may make a competitive bid impossible);
 - If available, an extended link UNE or combination includes a long transport component priced at circuit-switched TELRIC.

Impair test (continued) . . .

- **Time-to-market: how long of a delay is too long?**
 - In order to compete effectively, a CLEC must be able to offer a competitive bid in roughly the same time and a provisioning interval of roughly the same length as an ILEC.
 - Self-provisioning will engender a delay substantially longer than that involved with use of a PVC UNE or other frame relay UNE combinations (determining the permissibility of combinations may involve additional delay).
 - Without a PVC UNE or frame relay UNE combinations, CLECs may not be able to demonstrate or accumulate sufficient demand to justify the costs of collocation and switch deployment – time-to-market delays could be unpredictable or interminable, either of which would prevent a competitive bid.
 - Delays associated with collocation (from months to more than a year) and additional frame relay switch deployment generally are not experienced by the ILECs.
 - Unless self-provisioning or wholesale alternatives to UNEs are available in a timeframe similar to that which the ILEC itself would need to provision the service, delay-to-market differentials compel unbundling.

Impair test (continued) . . .

- **The FCC's Section 706 mandate and the public interest also compel definition of frame relay/data UNEs.**
 - While frame relay UNEs may not accelerate the pace of competition in rural America, their impact on the small businesses driving today's Internet boom and economic expansion could be dramatic.
 - By generating additional demand and providing a reasonable profit, unbundling actually encourages ILEC deployment of advanced technologies.
 - As in the voice world, frame relay UNEs will extend the reach of competitive facilities-based networks and, thereby, will promote and maximize additional facilities deployment by competitors.
 - Extended reach means more choices for consumers.
 - Extending competitors' reach also will place pressure on ILECs to improve their frame relay service offerings and to move prices down toward cost.

e.spire / Intermedia

Frame Relay and Data UNEs

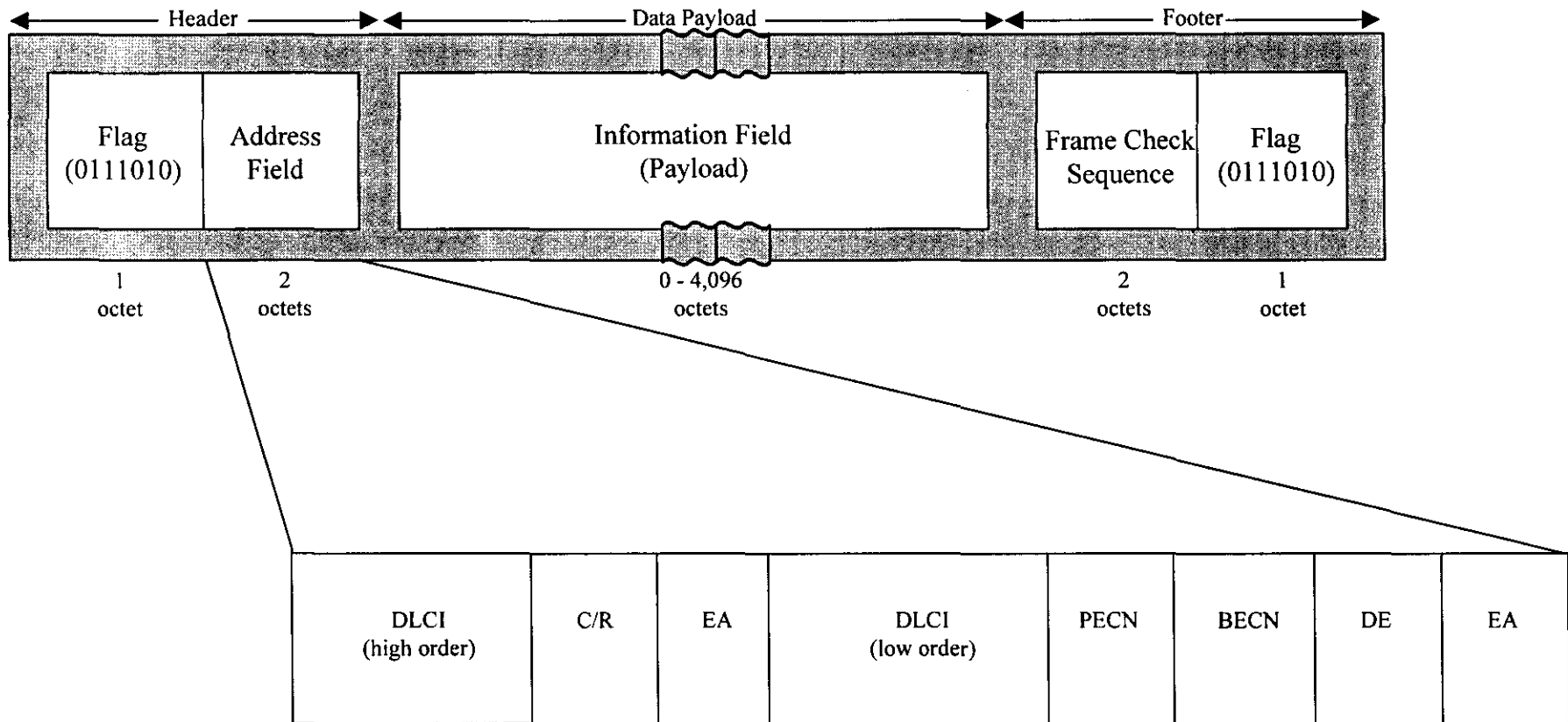
- A** Frame relay frame
- B** Getting to the first frame relay switch
- C** Frame relay - physical components
- D** PVCs and ILEC tariffed elements
- E** Frame relay on the OSI protocol stack
- F** Connecting frame relay networks to expand reach
- G** Frame relay interconnection
- H** How to get customer onto a CLEC's frame relay network
- I** Different delivery options lead to different pricing scenarios

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Frame Relay Frame

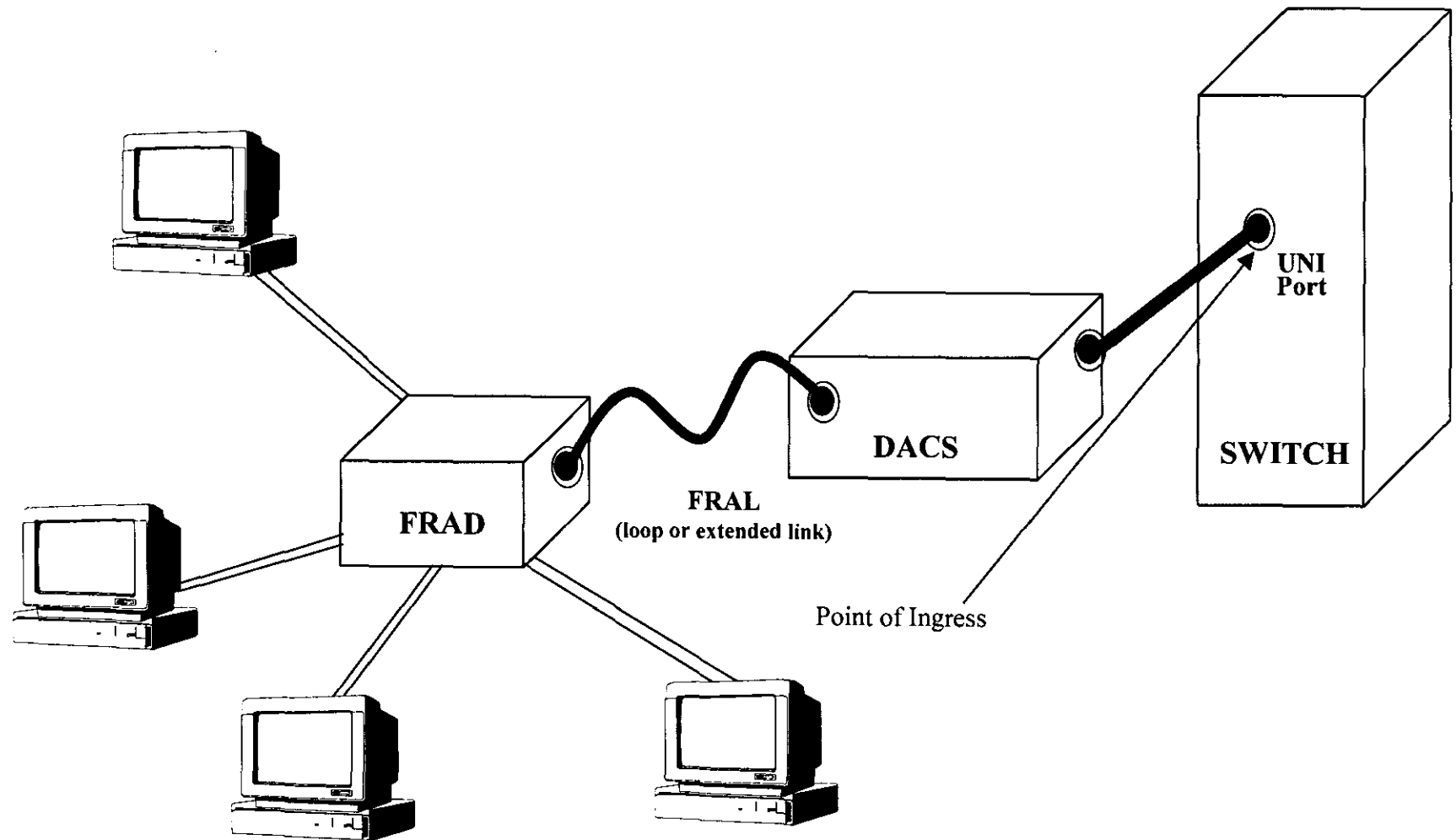


Octet = an 8 bit byte

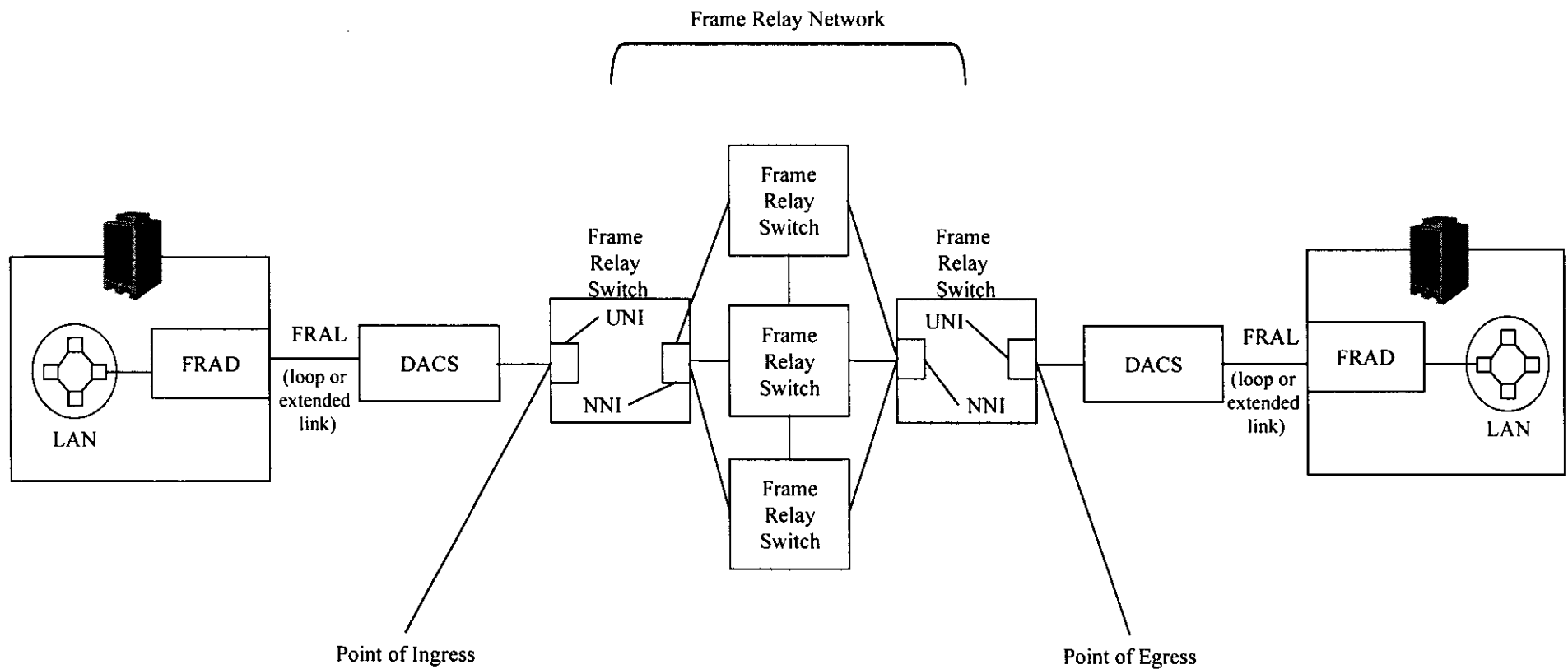
DLCI	Data link connection identifier
C/R	Command/response field
FECN	Forward explicit congestion notification
BECN	Backward explicit congestion notification
DE	Discard eligibility
EA	Address field extension

Adapted from Newton's Telecom Dictionary

Getting to the First Frame Relay Switch



Frame Relay - Physical Components



Frame Relay - PVCs and ILEC Tariff Elements

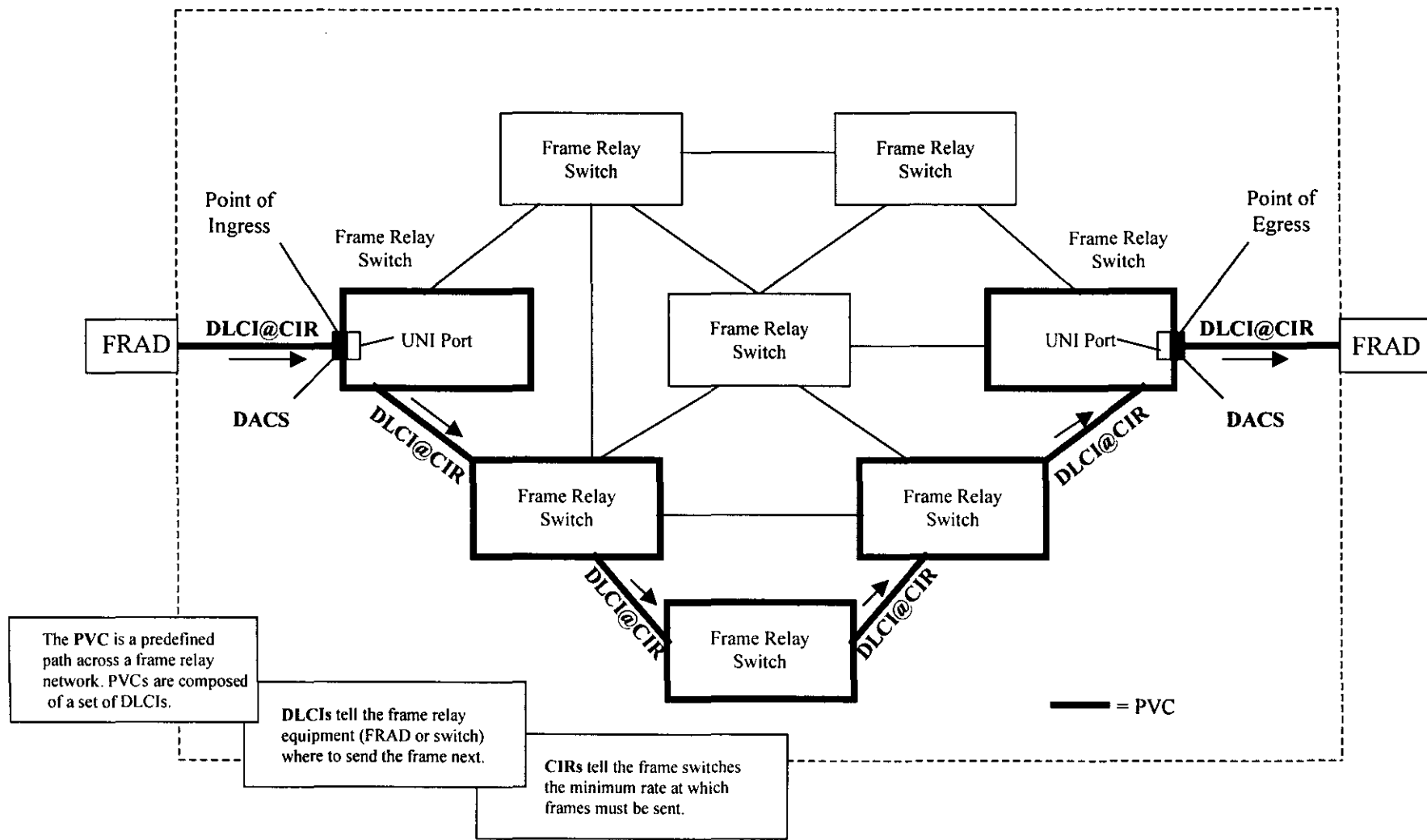
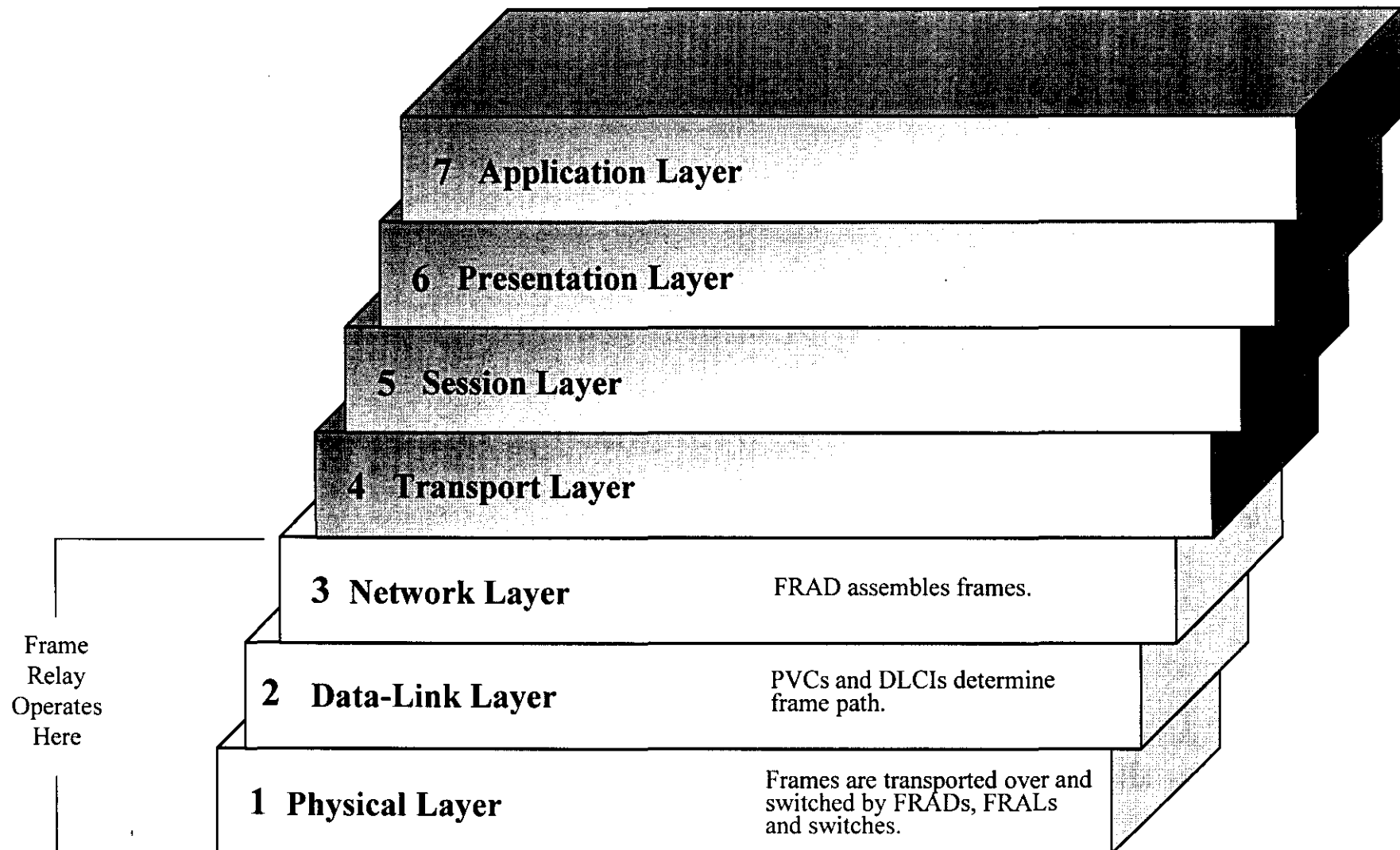
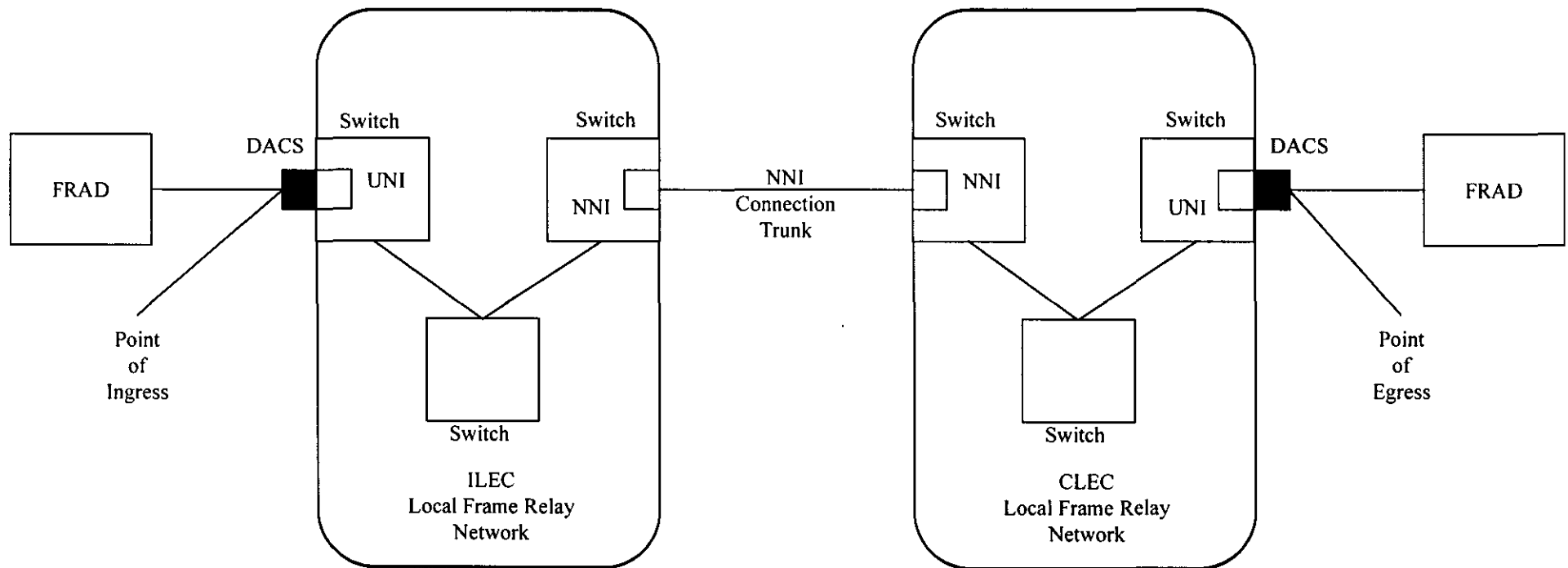


Diagram D

Frame Relay on the OSI Protocol Stack



Connecting Frame Relay Networks to Expand the Reach of ILEC and CLEC Networks



Frame Relay Interconnection

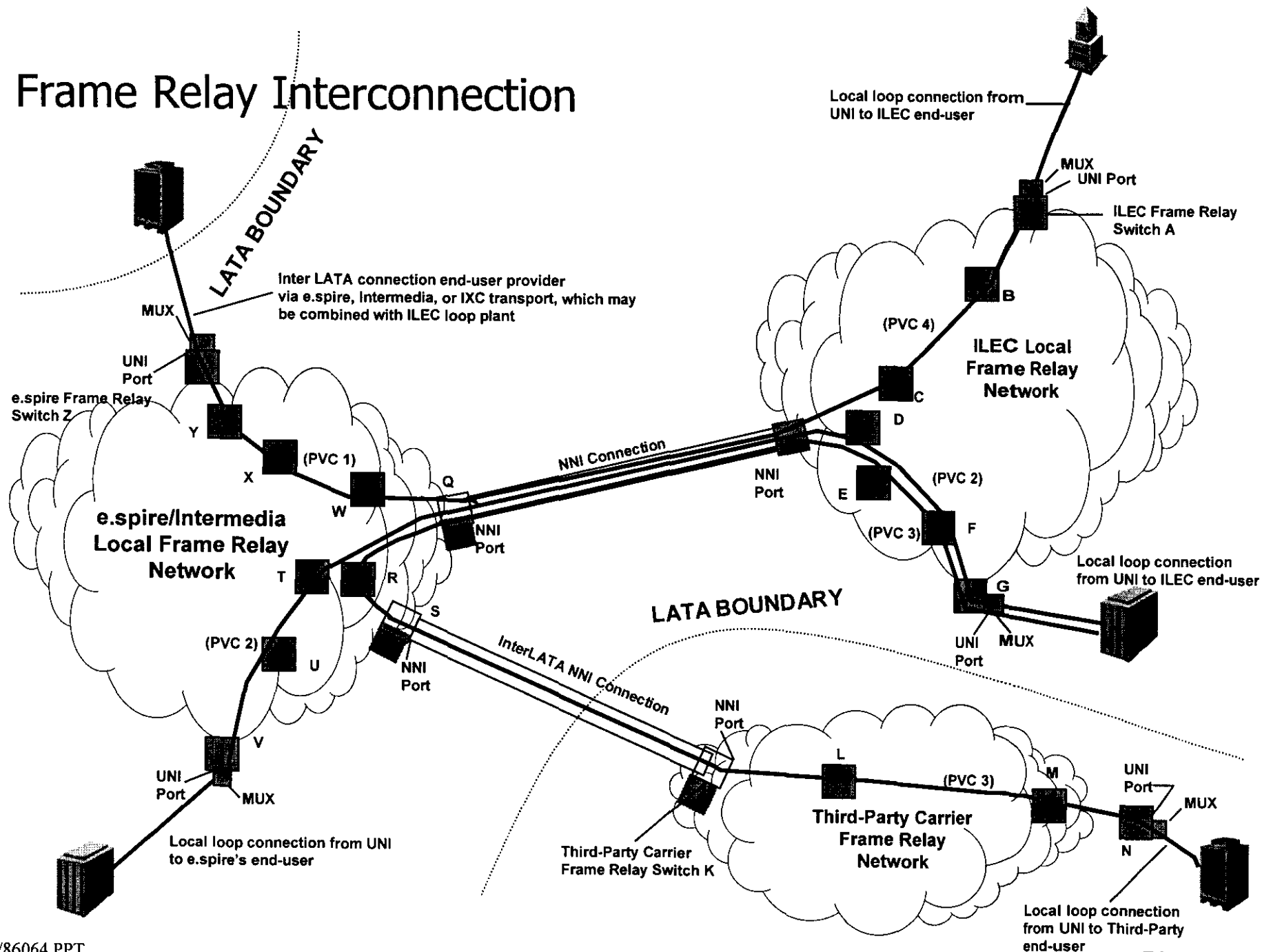
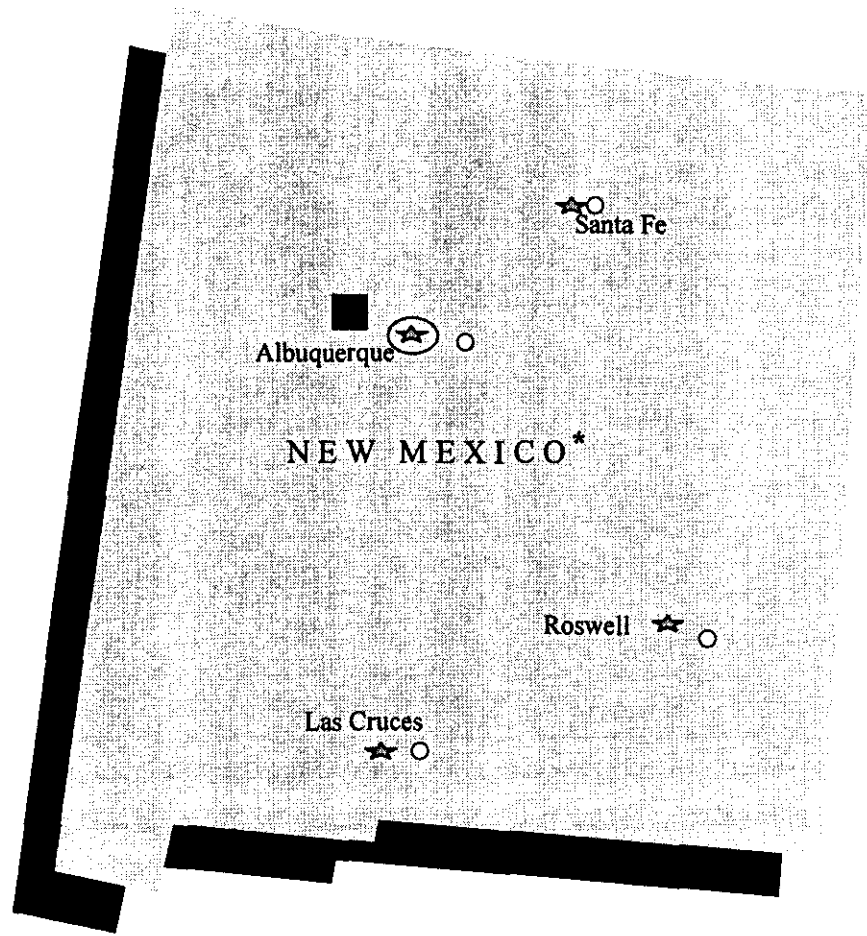


Diagram G

How to get a frame relay customer onto a CLEC's frame relay network

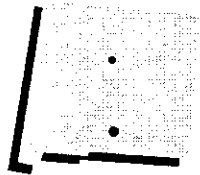


For the customer's headquarters location, the connection is simply made by bringing the customer "on-net" (self-provisioning a loop) or by leasing a local loop UNE.

For the customer's LANs in outlying locations, a CLEC, in this case, e.spire, should be able to choose between circuit-switched delivery or packet-switched delivery via ILEC UNEs. As demonstrated on the next diagram, each method presents several costing scenarios which factor directly into e.spire's ability to provide competitive frame relay services.

- ☆ Frame relay customer LAN (⊙ Headquarters)
- CLEC frame relay POP/switch
- ILEC frame relay POP/switch
- * New Mexico is a single LATA state

Diagram H



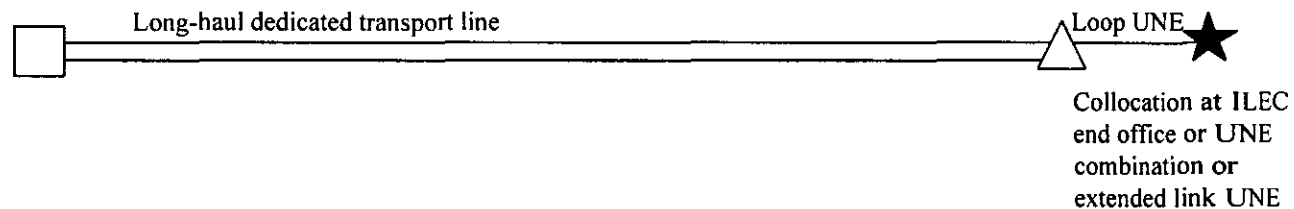
Pricing

Different delivery options lead to different pricing scenarios

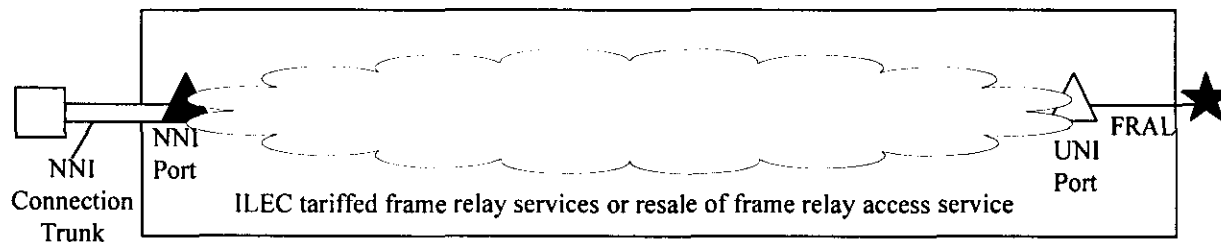
e.spire frame
relay
switch/POP
Albuquerque

Customer LAN
Las Cruces

May be efficient, if transport link is short. Prohibitively expensive in most cases where UNE combinations or extended link are not available. Even then, costs may not be comparable to the TELRIC of packet-switched transport.



Tariffed rates are unrelated to cost - do not reflect efficiencies of frame relay networks. Resale costs roughly 30-40% more than UNEs.



TELRIC pricing of ILEC rate elements reflects efficiencies of ILEC network.

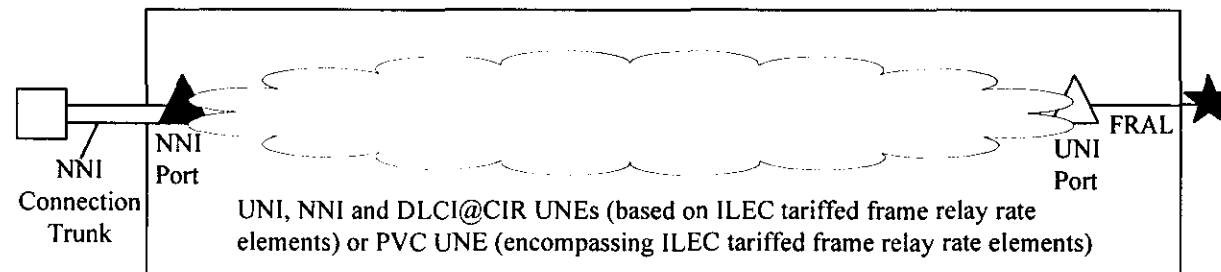


Diagram 1

Frame Relay and Data UNEs

CC Docket No. 96-98

August 9, 1999

APPENDIX

**e.spire Communications, Inc.
Intermedia Communications Inc.**

Frame Relay and Data UNEs

CC Docket No. 96-98

July 21, 1999

**e.spire Communications, Inc.
Intermedia Communications Inc.**

APPENDIX

<i>Tab</i>	<i>Document</i>
1	Arizona Corporation Commission Order re e.spire/U S West Frame Relay Arbitration
2	Colorado Public Utilities Commission Orders re e.spire/U S West Frame Relay Arbitration
3	New Mexico Corporation Commission Order re e.spire/U S West Frame Relay Arbitration
4	Frame Relay Service Excerpts from Ameritech Operating Companies Tariff FCC No. 2
5	Frame Relay Service Excerpts from The Bell Atlantic Telephone Companies Tariff FCC No. 1
6	Frame Relay Service Excerpts from BellSouth Telecommunications, Inc. Tariff FCC No. 1
7	Frame Relay Service Excerpts from GTE System Telephone Companies Tariff FCC No. 1
8	Frame Relay Service Excerpts from Southwestern Bell Telephone Company Tariff FCC No. 73
9	Frame Relay Service Excerpts from U S West Communications Tariff FCC No. 73

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*One appendix of approximately
600 pages.*